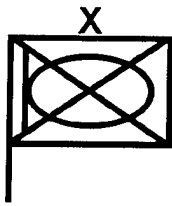




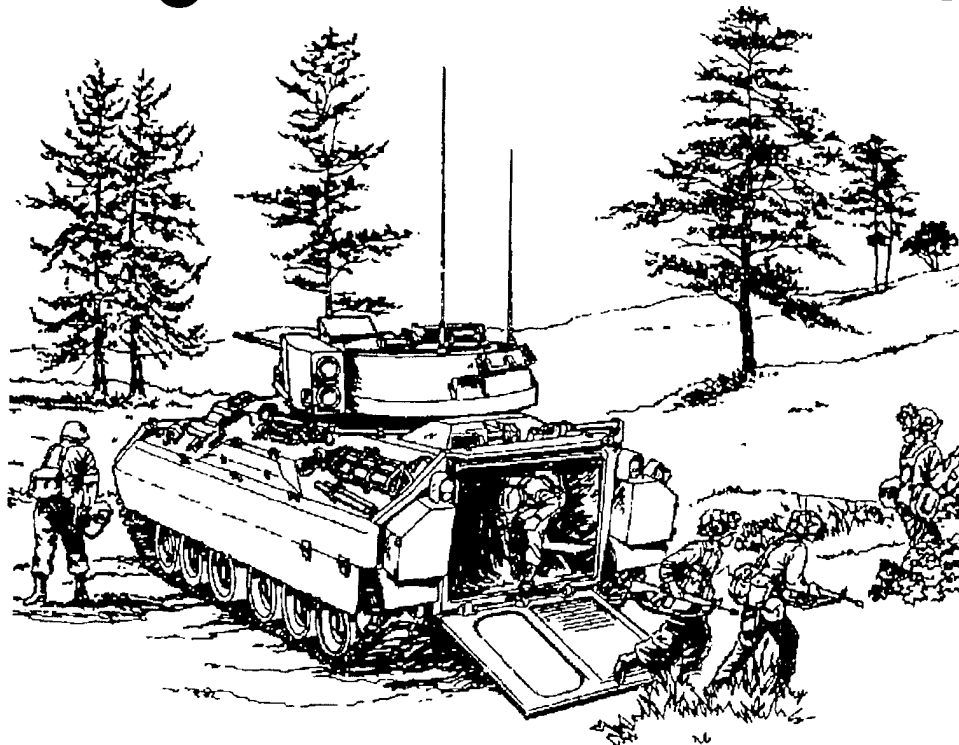
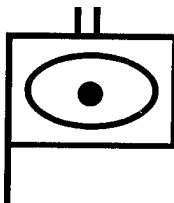
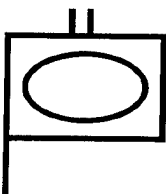
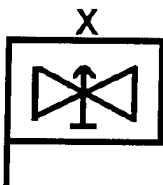
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No. 95-9

JUN 95



Risk Management for Brigades and Battalions



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INTRODUCTION

This newsletter describes a concept, with procedures and responsibilities, for risk management in brigades and battalions during Mission-Essential Task List (METL) training and operations. The concept reflects the roles of safety and fratricide avoidance as elements of force protection as described in FM 100-5, *Operations*. The risk management procedures and responsibilities are consistent with those presented in FM 101-5, *Command and Control for Commanders and Staff* (Final Draft, August 1993), which is approved as interim doctrine. It should be noted that Draft FM 101-5 places staff safety responsibilities in the S3 functional area. Also, the procedures are integrated into, and support phases of, the training management cycle in FM 25-101, *Battle-Focused Training*.

These procedures have been tested with three brigades and one battalion during the planning, execution and assessment phases for rotations at the National Training Center (1), Joint Readiness Training Center (2) and Combat Maneuver Training Center (1). Test brigades achieved significant reductions in ground accident casualty rates (-76 percent, -54 percent, -45 percent, and -64 percent, respectively) and no aircraft accidents. This newsletter also updates risk management tactics, techniques and procedures published in the Center for Army Lessons Learned Newsletter No. 93-9, *Force Protection (Safety)*, December 1993.

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Risk Management for Brigades and Battalions

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CONCEPT

Historically, the U. S. Army has suffered more losses to accidents (including fratricide) than to enemy action while deployed in combat theaters. Typically, these accidents are the same types experienced in peacetime during exercises at home station and at combat training centers (CTCs). A battle-focused training program can identify and correct the reasons for these accidents and protect the force. Effective force protection provides the commander a full measure of combat power for use at the decisive point and time.

Combat power is generated by men and machines performing battlefield operating system (BOS) functions in the operational environment. The seven BOS functions are *maneuver, fire support, air defense, battle command, intelligence, mobility* and *survivability and combat service support*. Accidents occur when performance of these functions is below standard due to human error, materiel failure or inadequate precautions for environmental factors. As in any after-action review, identifying below-standard performance tells *what happened*, but is only the first step to improvement. The second step is to identify the reasons *why it happened*. These reasons are found in factors that affect the ability of BOS functions to protect the force.

U. S. Army experience reveals five such factors that are sources of accidents. The first factor is *support* which functions to meet operational requirements for equipment, supplies, personnel, facilities, maintenance and services, e.g., medical. The second is *standards* which are procedures with performance criteria that exist for each task and are clear and practical. The third is *training* which provides the skills and knowledge necessary for performance to standard. The fourth is the *leader* who ensures performance to standard through guidance, teaching, oversight and enforcement. The last is the *individual* who is responsible for self-disciplined performance and conduct. Given adequate support, standards, training and leadership, the individual is expected to perform tasks to standard in operational conditions.

BOS functions that are in a below-standard status are hazards because this condition leads to human error, materiel failure and inadequate precautions for environmental factors that cause accidents. The final step to improved force protection is to identify *what to do* to control these hazards and thus reduce the risk of accidents. The U. S. Army's doctrinal process for identifying and controlling hazards is *risk management*. The process has five steps: (1) **Identify Hazards**, (2) **Assess Risk of Each Hazard**, (3) **Make Risk Decisions**



and Develop Controls, (4) Implement Controls, and (5) Supervise. (These steps are fully explained in Chapter 4 and Appendices F and N of FM 101-5, *Staff Organizations and Operations*, Final Draft, Aug 93; and Chapter 3, FM 25-101, *Battle-Focused Training*, Sep 90).

The successful commander will use risk management first as a means of establishing and sustaining the performance of BOS functions to standard, i.e., minimizing human error, materiel failure and the effects of environmental factors and second as a means to continuously improve his unit's training and operational capabilities by creating new standards. To do this, he will:

1. Identify opportunities to increase training realism for current operational capabilities and identify opportunities to enhance operational capabilities.

2. Identify and assess hazards that form the safety basis for existing training and operational standards.

3. For these hazards, eliminate/substitute/modify existing controls for training and identify creative/new technology controls for operational capabilities.

4. Use these control options to create an optimal mix of the following benefits:

- ✓ Conduct more realistic training.
- ✓ Increase operational capability.
- ✓ Reduce risk to the force.

Vignette

Topic: *Unrehearsed Night Occupation of a Lodgement Area.*

Discussion:

Situation: *A tank-heavy company team of a mechanized battalion task force was assigned the mission of establishing a lodgement area within a UN-designated zone of separation as a prelude to a Peace Enforcement operation. The team consisted of 103 tracked and wheeled vehicles. The company team had planned, backbriefed, and rehearsed in detail for a daylight occupation.*

Problem: *The convoy had encountered unexpected delays from unmarked minefields and illegal checkpoints enroute to the designated lodgement area. The movement was not completed before night fell and a steady rain became mixed with fog. The team commander did not have a contingency plan for a limited visibility occupation.*

Identify the Hazard: *The team commander who determined the operation entailed the following hazards:*

- *Potential unmarked minefields in the lodgement area.*
- *The lodgement area may be occupied by a potentially hostile force.*
- *The unimproved roads leading into the lodgement area were becoming increasingly slick from the steady rain.*



- Most of the roads in the area were bordered by steep drainage ditches.
- Fog was compounding the limited visibility brought on by sunset and the constant rain.
- The team consisted of elements that had never worked under his command before departure from the tactical assembly area.
- The terrain in the lodgement area was soaked from the steady rain and would quickly become rough and mired after the passage of the convoy.

Assess the Hazard: The team commander determined the potential for an accident leading to loss of time, damage to equipment, or injury to personnel was high. Moving the team into a restricted lodgement area in the dark is dangerous under the best of conditions. His situation was worsened by the weather and compounded by not having conducted a rehearsal at night. His subordinates were not accustomed to working together, and he was not certain how they would respond to his instructions.

Identify Control Options and Make Decisions: The team commander's first identified control option was to delay occupation until sunrise. He understood that the enemy threat was low to moderate. Civilian vehicle traffic on the route to the lodgement was extremely light. He was confident that he could halt the convoy on the road short of the lodgement area and establish local security to protect the force. He could then clear the area of mines and enemy quickly in daylight and continue the occupation as planned and rehearsed. The team commander believed this option would not jeopardize the battalion mission.

The team commander attempted to establish radio contact with battalion to discuss the situation. He intended to present his assessment and control option to the commander for a decision because he did not have the authority to change the occupation time to the following day. Direct radio contact failed. The battalion scouts attempted to relay the messages between the team and battalion commander. This process proved cumbersome, and the battalion commander finally directed the team commander to occupy the lodgement area because further delays would jeopardize the mission.

The team commander accepted this as the risk decision. He issued a FRAGO after building a plan based on control measures within his authority to direct and implement. He dispatched an element of scouts and engineers to the lodgement area to clear or mark any mines, and to determine if it was occupied by a hostile force. The FRAGO included a terrain sketch which identified control measures, hazards, and locations for each element.

Implement Controls: Each leader in the team made a copy of the commander's sketch for occupation of the lodgement. Each leader marked the entry point on his map and ensured he had positive radio communications with the team command post. All drivers and vehicle occupants were briefed on the FRAGO, and the team used the battalion SOP for a night occupation of an area.



Supervise: *The controls required strict enforcement from the most junior leaders in the team. Everyone had to know what the plan was and what the control measures were. Iron discipline was required to ensure vehicles moved only when and where they were guided, and soldiers remained mounted until directed to occupy defensive positions.*

The occupation was completed without incident before sunrise.

Lesson(s): *Operations must be thoroughly wargamed during the planning process. In an operation such as this, rehearse for both a day and night occupation if time is available. Use the battalion SOP for occupation of an area. Hazards must be identified before rehearsals so that control measures for both day and night occupation can be in place for the rehearsal.*

RISK MANAGEMENT INTEGRATION - SUMMARY

To be most effective, risk management procedures should be integrated into existing commander processes which then become risk management tools (sample tools are listed in Enclosure 1). The objective is to help the commander improve what he is already doing. The procedures provide for:

1. The development of safety policy, goals, objectives and priorities for inclusion in the commander's quarterly training guidance.

2. A safety assessment, as part of the commander's training assessment, to identify force protection shortcomings (hazards) and

actions to correct or control them during the planning phase of training.

3. The systematic observation and assessment of the unit's risk management and safety performance. Objective is to provide the commander sufficient information to determine whether performance met his guidance and to identify corrective actions to feed back into the training management cycle and Standing Operating Procedures (SOPs) for field and tactical operations.

4. The integration of risk management into the decisionmaking process to identify and control hazards. Continuous application of risk management procedures for unexpected hazards.



Vignette

Topic: *Battalion Task Force Refuel-on-the-Move (ROM) Mission.*

Discussion:

Situation: *A mechanized infantry battalion task force (TF) received a mission to deploy into a zone of separation established by the UN to execute Peacekeeping operations. The deployment from home station required execution of a tactical road march. The TF was required to execute ROM operations during the road march. The brigade would operate the ROM sites for the battalion.*

Problem: *The battalion had recently completed training for ROM using organic assets. The brigade assumed responsibility for establishing the ROM and published the procedures as part of the OPORD. The battalion had never rehearsed a ROM using this particular technique designated by the brigade. There was no time available to train and rehearse the new ROM technique before deployment.*

Identify the Hazard: *The ROM was to be executed by unrehearsed troops on unimproved roads which were bordered by steep drainage ditches. To further complicate the matter, recent steady rains in the vicinity of the ROM sites had made the ground slippery. The road march consisted of multiple serials of intermixed tracked and wheeled vehicles.*

Assess the Hazard: *The battalion commander and his staff determined during the military planning process that the risk to the success of the mission was extremely high. An attempt to move the large number of heavy tracked and wheeled vehicles through unrehearsed ROM sites in poor weather and on poor roads would likely result in an accident. He determined the possible loss of time, personnel, and materiel outweighed any advantage he would receive by the brigade executing the ROM.*

Identify Control Options and Make Decisions: *The preferred control option identified by the battalion commander, rehearse the new ROM technique before execution, was not possible. There was no time available to organize and execute an additional rehearsal. The battalion training schedule was already full meeting other mission preparation requirements.*

The battalion commander knew he did not have the authority to change the brigade OPORD; he did not have the authority to implement his second control option: Execute the ROM as previously trained and rehearsed. He elevated the hazard and his recommended control to the brigade commander. After discussion, he agreed to the recommended changes and, subsequently, the OPORD was changed.

Implement Control Options: *The OPORD was changed, and the battalion was directed to set up and execute the ROM. The battalion OPORD was published with ROM instructions*



that reflected the previously trained and rehearsed technique. All personnel were briefed to execute the ROM as rehearsed.

Supervise: All leaders focused attention on the execution of the ROM and ensured it was conducted as rehearsed. Duties and procedures were clear and well understood throughout the chain of command. The ROM was executed without incident, and the change of control of the ROM from brigade to battalion did not adversely affect the mission.

Lesson(s): Risk decision authority resides with the individual or agency within the chain of command responsible for assigning the mission. In this case, the brigade had assigned the mission; therefore, the brigade commander was the appropriate level for accepting the risk or making the changes based on analysis and implementation of control options. Had the requirement to execute the ROM been given to the brigade by division, then the appropriate level for decision would be the division commander.Ⓢ

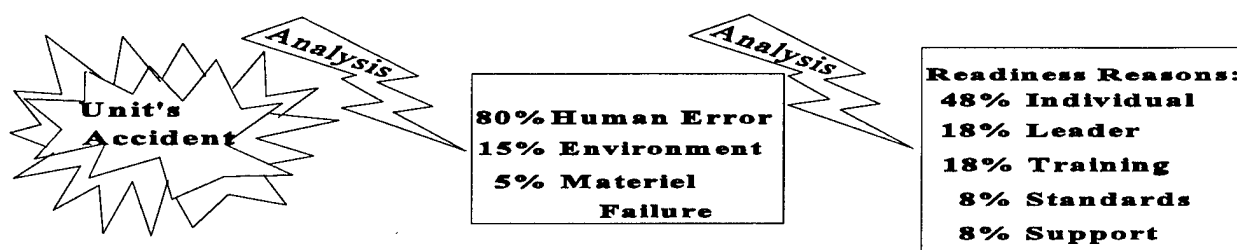
RISK MANAGEMENT PROCEDURES - TRAINING

1. **Commander's Guidance.** To assist the Commander in developing safety policy, goals, objectives and priorities, the S3 (Safety):

a. Retrieves the unit's past (minimum of one year) accident reports (METL-related only) from hard copy files or from the Army Safety Management Information System (if not

available in unit, task local Safety Office for this information).

b. Analyzes the reports to determine cause factors and reasons. A summary of the most frequent Armywide factors and reasons is at Enclosure 2.



c. Prepares a report that identifies the most probable and most severe types of accidents to be expected during the upcoming planning and execution phases of training. The report should also identify the most likely reasons for these accidents and corrective control options for selection by the commander.

d. As directed, develops safety input for quarterly training guidance and for SOP.

2. Planning Phase (Safety Assessment). S3 (Safety) develops input to Commander's Training Assessment by executing the following actions:

a. **Safety Quiz.** Develops a quiz (example aviation and ground quizzes available on request from Installation Safety Office or Army Safety Center) to determine soldier knowledge of safety guidance specified by the

unit (e.g., SOP) and the area of operations (e.g., home-station installation or CTC). Administers the quiz to all soldiers and sets a minimum passing score (e.g., 80 percent). Results will be rolled up from platoon to brigade level enabling commanders and leaders at each level to identify what safety guidance their soldiers do not know and to establish training to provide that knowledge. Sample results are at Enclosures 3 and 4.

b. Next Accident Assessment -

Individuals (versions tailored for aviators and ground personnel available on request from Installation Safety Office or Army Safety Center). Administers to all soldiers. Permits soldier to assess his risk of causing an accident (soldier does not reveal this result). Additional "blank-box" form requires each soldier to identify action(s) he will take to reduce his risk



plus action(s) he needs the chain of command to take. This feedback is rolled up from platoon to brigade level enabling commanders and leaders to see what changes their soldiers believe would improve unit safety. Example of risk-reduction actions is at Enclosure 5.

c. **Next Accident Assessment** - Leaders (versions tailored for aviators and ground personnel available on request from Installation Safety Office or Army Safety Center). Each leader completes the assessment for each soldier he immediately rates. Assessment establishes the risk of each soldier causing an accident and the reasons for the risk. Leader enters the scores on the summary sheet and retains as a record of risk reduction progress. Summary sheets are rolled up from platoon to brigade, enabling commanders and leaders to determine the percentage of high risk soldiers, reasons for the risk and control options. Example result is at Enclosure 6.

d. **METL Risk Assessment.** Each officer and NCO estimates the accident risk for each METL task. For each task rated as "High" or "Extremely High," they provide the reasons. This subjective assessment prioritizes the unit's METL by accident risk so controls can be focused on tasks most in need. Example result is at Enclosures 7 and 8.

e. **Safety Observations.** Observe unit's BOS functions and METL training in action. Interview commanders, key leaders and selected soldiers. Review training guidance of the unit and next higher level. Objective is to obtain information about the force protection ability of each BOS function.

f. **Analyze and record data.** Organize findings from the quiz, next accident

assessments and safety observations into a report that establishes the basis for input into the Commander's Training Assessment. Example input is at Enclosure 9.

3. **Execution Phase (Risk Management).** During the training mission, the commander and staff perform operational risk management procedures as described in the next section. The unit's risk management and safety performance is observed as follows:

a. Observer/controllers (O/Cs) are assigned to observe, record and report on the unit's performance. For home-station exercises, O/Cs typically come from sister units. For CTC exercises, O/Cs are from the resident operations group.

b. The flow chart at Enclosure 10 may be used by O/Cs as a guide in observing the unit's risk management performance.

c. The form at Enclosure 11 may be used by O/Cs to record observed safety/fratricide incidents. At Enclosure 2 is a summary of safety factors to standardize information recorded on the observation form at Enclosure 11. The flow chart at Enclosure 12 may be used by O/Cs to determine the reasons for safety/fratricide incidents observed.

4. **Assessment Phase (After-Action Review (AAR)).**

a. The O/Cs analyze their observations and provide an assessment to the unit commander. The chart at Enclosure 13 is an example of how the risk management assessment can be presented. The chart at Enclosure 14 is an example of how the safety assessment can be presented. O/Cs should report any safety controls considered unnecessarily restrictive and any other



opportunities to improve training realism/effectiveness.

b. The S3 (Safety) assesses how well unit performance meets the commander's safety guidance and provides recommended changes to safety guidance and controls.

c. Commander uses AAR information to determine if the unit's performance meets his safety guidance, the effectiveness of controls implemented during the planning and execution phases and ensures that necessary changes are fed back into the training management cycle and SOP.

Vignette

Topic: Task Organization for a Tactical Road March.

Discussion:

Situation: *A mechanized infantry battalion task force received an OPORD from the brigade with the mission to occupy a UN-designated zone of separation to conduct Peace Enforcement operations. Specified tasks included clearing the main supply routes to the zone and occupation of two different lodgement areas. One of the implied tasks was to conduct a tactical road march.*

The battalion was task-organized by brigade with one tank company, two mechanized companies, an engineer platoon with a CEV and ACEs, an ADA platoon, an MP platoon, an NBC reconnaissance section, a PSYOP team, and a Civil Affairs team.

Brigade controlled elements were to be integrated into the movement to the lodgement areas.

Problem: *The brigade S2 produced an IPB overlay indicating the presence of many known (marked) and unknown (unmarked) minefields throughout the area of operations. The minefields spanned the planned routes into the lodgement areas. The tank platoons did not have mine rollers.*

Identify the Hazards: *The battalion staff was committed to supervising STX lanes training when the OPORD was delivered and briefed by the brigade. Key members of the staff were not available for preparation of the battalion OPORD. The battalion commander had to prepare the order with limited assistance from the staff.*

The staff members participating in the orders preparation were not experienced with the integration of the risk management process in the tactical decisionmaking process. They did not identify hazards within their BOS during the mission analysis and course-of-action development. The battalion commander completed the risk management process on his own.



The brigade staff did not do a complete job of integrating risk management into their tactical decisionmaking process because they also were not familiar with the technique. The minefield hazard was identified, but control measures were left out. Mine rollers with the tank company team or ACEs in all advanced guards to assist in clearing would have been proper control measures.

Neither the battalion commander nor the task force engineer identified the needed control measures to counter the minefield hazard. The battalion safety officer was the S1 and, therefore, was not part of the battle staff. He was not able to assist the S3 (in this case, the assistant S3 because the S3 was committed to STX supervision) by identifying the hazard.

The tank company commander was not available during the battalion OPORD preparation because of the STX. Parallel planning that might have surfaced the hazard based on company-level planning was not completed. He did not identify the appropriate controls for this hazard during the order preparation which followed the battalion OPORD briefing.

Assess the Hazards: The brigade had assessed the presence of unknown and unmarked minefields throughout the area of operations as high risk. The battalion commander also assessed the minefields as high risk hazards. The tank company commander and all other subordinate leaders agreed that the minefields were a significant hazard.

Identify Control Options and Make Decisions: The brigade provided only one control measure for the minefield hazard: It task-organized the TF engineers with mine detectors. The brigade commander and his staff did not identify mine roller-equipped tanks or ACEs well forward in the advanced guards as possible control measures.

The battalion commander and his staff accepted the control measure provided by the brigade without additional analysis. The commander did not surface the need for mine rollers to the brigade commander for a decision. He did not identify the ACEs as a potential mine-clearing asset. He organized his company teams in a manner that spread the engineer mine detectors across the battalion task force. Each element responsible for clearing a route to the zone of separation would have mine detectors available.

The tank company team commander was assigned the mission of clearing the main supply route through the zone of separation. He was provided the mine detectors and ACEs. He did not think to ask about mine rollers. He organized the convoy with the ACEs about one third of the way back in the main body. His advance guard consisted of scouts with M113-mounted engineers and some infantry (BFV) support.

The tank commander intended for his advance guard to clear and mark mines encountered enroute to his objective.

Implement Control Options: The tank company team executed the tactical road march as planned. The scouts, engineers, and infantry of the advance guard were well forward and conducting visual searches for mines. The plan broke down after two hours of movement when



the advance guard encountered the first buried minefield on the route. An engineer vehicle was destroyed, and all on board were killed when the M113 hit a landmine.

The movement of the main body ground to a halt. Infantry dismounts were brought forward to assist the scouts in probing and marking a route through the minefield by hand. Neither the battalion commander, the tank company team commander, nor the task force engineer thought to move the ACEs forward to assist in clearing a passage through the minefield. Mine rollers were not requested.

Supervise: *The engineers supervised the implementation of the control measures (hand-held mine detectors and visual search) until they died in the minefield. The scout and infantry squad leaders in the advance guard supervised the clearing of the route for the remainder of the movement.*

The brigade and battalion XOs missed the opportunity to train and supervise the staffs in the integration of risk management in the tactical decisionmaking process. The commanders at each level from the brigade through the tank company commander failed to identify the hazard and appropriate control measures in their mission analysis and course-of-action development and selection.

The task force failed to accomplish the specified task of occupying the lodgement area before nightfall because the hazards were not properly controlled. Proper integration of risk management may have contributed significantly to the success of the mission and preservation of manpower and equipment.

Lesson(s): *Good supervision of a bad plan will not ensure success. Proper integration of risk management in the tactical decisionmaking process may have only identified the hazard (minefields) and the risk (high), but may have also identified the proper control measures (mine rollers and/or ACEs forward) for implementation.*

In this example, the IPB identified both identified and unidentified minefields in the area of operations. The entire chain of command agreed that it presented a high risk and, therefore, was one of the top hazards that would be faced. Because the planning procedures did not include proper risk management procedures, parallel planning, and proper rehearsals, to include feedback, a high risk hazard was overlooked. When high risk hazards are identified, leaders and staffs must focus on them to ensure the proper controls are implemented.



Vignette

Topic: Planning Logistical Release Points (LRPs)

Discussion:

Situation: A battalion task force S4 was conducting course-of-action development for the logistical support of a defense in sector. He was analyzing the terrain behind the planned battle positions along the main supply routes to identify locations for LRPs. He knew that the supplies would be moved during periods of limited visibility, on large wheeled vehicles, most likely during inclement weather, and by operators entering the fifth consecutive day of the battle.

Problem: The S4 was a young captain and newly assigned. He did not have much experience planning LRPs or in moving the quantities of supplies needed to sustain a heavy task force conducting defensive operations.

Identify the Hazard: The S4 was considering the enemy situation when searching for the LRP locations. He was looking for covered and concealed locations close enough to the battle positions to ensure resupply, but not be interfered with by hostile fires and without causing unreasonable burdens on the supported elements.

The battalion CSM was circulating among the members of the battle staff as it was working separately to develop COAs. He paused at the S4's work station and discussed the proposed LRP locations with him. The CSM studied the graphics on the S4's map and asked him to examine the contour intervals around the proposed LRPs. He also asked the S4 to consider the following while he looked at the proposed positions:

- How steep was the terrain? Very steep.
- What was the condition of the unimproved roads in the area of operations? Heavily rutted and slick from the inclement weather.
- When would the LRPs be in use? At night and based on the weather forecasts, visibility would be further limited by fog and rain.
- What was the current condition of the drivers? Newly assigned drivers to the battalion who had been moving supplies almost continuously for five days.
- What type of vehicle would be used to move the supplies? Five-ton cargos and HETs that were heavily loaded.

Identify Control Options and Make Decisions: The S4 concluded that the hazards associated with his proposed LRPs created unacceptable risk. The environment, combined with the inexperience of the drivers, increased the possibility of accidents during resupply operations.

The S4 then determined that by substituting different LRPs for his initial proposals and implementing some additional controls, he could control the hazards without jeopardizing the



mission. Since the battle staff was still developing COAs, he could implement the controls by embedding them in each proposed COA.

He selected proposed LRPs on relatively level ground with a good road network or sufficient turnaround space for large vehicles. The drivers would be rotated through an enforced sleep plan. Vehicle commanders would be thoroughly briefed on the nature of the identified hazards and the need for reduced speed, gradual turns, and ground guides to the front and rear whenever vehicles were being positioned.

Implement Control Options: Each logistical COA addressed the identified hazards and integrated the control measures. The commander's selection of a COA did not create any additional risk for logistical support. The properly positioned LRPs were posted to the logistical support graphics and instructions for safe movement in and around the LRPs were included in the logistics annex.

Supervise: Discipline and enforcement of the instructions contained in the OPORD were provided by the entire chain of command. The key was disseminating the controls to the lowest levels of the task force. Adherence to the plan ensured safe operation of the LRPs.

Lesson(s): Implementation of the risk management process during the tactical decisionmaking process takes little time, saves losses of time and materiel, and ensures that manpower is available so that combat power can be concentrated at the proper place on the battlefield. Many hazard controls are SOP items. But the chain of command must enforce these items, and soldiers must have the self discipline to adhere to them when not being supervised.☺

RISK MANAGEMENT PROCEDURES - OPERATIONS

1. **Mission Planning and Execution (Risk Management).** During planning and execution of the mission, commander and staff use risk management procedures to identify and control mission, enemy, terrain/weather, troop and time (METT-T) hazards. The chart

at Enclosure 15 shows how risk management can be integrated into the decisionmaking process. Both of these processes require sequential steps that are executed based on time available. When time is limited, the steps are streamlined with increased reliance on the



experience and expertise of the commander and staff. The table at Enclosure 16 shows how risk management can be integrated into a related mission training plan task.

a. **Risk assessment.** The S3 (Safety) gathers METT-T information from the staff and completes a risk assessment for each course of action (COA). Risk assessment matrices tailored for the unit's METL may be used for this purpose. The risk level of each COA should be entered on the decision matrix as the Force Protection (Safety and Fratricide Avoidance) criterion.

b. **Risk management.** Commander selects the COA and decides to accept the level of risk or elevate the decision to the next command level. Decision is based on the level of risk-acceptance authority delegated by higher command and significant hazards that cannot be controlled at his command level. **(NOTE: Each organization is responsible for establishing the level of command with the authority to accept each level of risk.)** For the selected COA, each staff officer applies risk management procedures for his BOS function to identify the hazards most likely to result in loss of combat power and implements one or more controls for each. Care is taken to avoid unnecessary safety restrictions. The Executive Officer (XO) reviews control options developed by the staff that have cross-function implications. He ensures synchronization of the total risk control effort.

Control options addressing high risk hazards and/or those having a potentially significant impact on the COA are recommended by the XO to the commander for his decision.

Approved controls are developed by the staff and integrated into appropriate paragraphs of the operation order and overlays.

Commander and staff then monitor and enforce controls until mission completion. New or increased risk in METT-T hazards are risk managed as they occur during the mission. The table at Enclosure 17 shows how risk management can be integrated into an OPORD.

2. **Mission Assessment (After-Action Review).** After mission completion, commander and staff assess the unit's risk management effectiveness and force protection (safety/fratricide) performance. Improvements are identified, and actions to implement are initiated.

a. For his BOS function, each staff officer assesses the effectiveness of each risk management step, the reasons (force protection factors) for incidents experienced during the mission and whether or not the commander's guidance was met. Based on this assessment, each staff officer identifies (and initiates action to implement) improvements needed.

b. The S3 (Safety) collects from the staff information about force protection shortcomings and needed improvements. He identifies those considered significant/having cross-function application and reports them to the XO. The XO reviews these shortcomings and needed improvements, takes action to implement those he deems necessary and elevates to the commander only those having significant mission impact/high accident risk.

c. The commander uses information from the AAR and recommendations from the XO/staff to determine if the unit's risk



management and safety performance meet his guidance, the effectiveness of hazard controls implemented, and necessary changes to

guidance and controls (including SOP) for future missions.☛

RISK MANAGEMENT RESPONSIBILITIES

1. Commander.

a. Ensure ability of BOS functions to perform to standard to minimize human error, materiel failure and environmental effects.

b. Establish force protection policy and realistic safety goals, each with objectives and priorities.

c. Ensure commander's training assessment considers ability of BOS functions to protect the force. Select and ensure implementation of long-term, short-term and near-term control actions to improve force protection.

d. Ensure staff integrates risk management into the planning and execution of training and operational missions.

e. Make risk decision. Select, monitor and enforce implementation of controls for hazards most likely to result in loss of combat power. After implementing controls, if risk is still above authority to accept, elevate risk decision to the appropriate command level.

f. Determine if unit performance meets force protection guidance. Determine effectiveness of hazard controls and necessary changes to guidance and controls. Ensure these changes are fed back into the training

management cycle and guidance for operational missions, including unit's SOP.

2. **S3 (Safety).** For the purposes of this paper, the officer designated by the commander as responsible for the force protection components of safety and fratricide avoidance is identified as the S3 (Safety). (**NOTE: Analysis of S3 (Safety) tasks outlined in this report for Brigades and Battalions support placement in the S3 functional area. This placement is reflected in FM 101-5, Final Draft, August 1993).**

a. Monitor ability of each BOS to protect the force. Advise commander when below-standard status (affecting force protection) of any BOS is detected.

b. Develop input for commander's force protection policy and goals with objectives and priorities.

c. Develop force protection input for quarterly training guidance and SOP.

d. Develop safety input options for commander's training assessment.

e. Complete risk assessment for each course of action (COA) during operational missions.

f. Assess unit risk management and force protection performance during training and



operations. Provide recommended changes to force protection guidance and controls.

3. Staff (All).

a. Execute functions to provide:

(1) Support needed to meet operational requirements.

(2) Procedures and standards that are clear and practical for each METL task.

(3) Training necessary for METL performance to standard.

b. Identify force protection shortcomings in BOS functions and develop control actions.

c. Apply risk management procedures. Develop and implement controls selected by the commander.

4. Leaders.

a. Enforce METL task performance to standard. Adopt the "Crawl-Walk-Run" approach in planning and executing training.

b. Administer the Safety Quiz. Use results to establish and execute training to provide needed force protection knowledge and skills.

c. Complete Next Accident Assessment for each soldier rated. Use results to provide

counseling and training needed to reduce each soldier's risk.

d. Execute risk reduction controls selected by commander by developing and implementing supporting leader-level controls. Apply risk management procedures in executing each METL task. After implementing controls, if risk is still above leader authority to accept, elevate risk decision to the appropriate command level.

5. Individuals.

a. Sustain self-disciplined duty performance and conduct.

b. Execute risk management controls selected by the commander and leader.

c. Complete the Next Accident Assessment for Individuals. Identify control actions for risk factors revealed by the assessment. Execute those within personal capability. Request chain-of-command assistance with those above personal authority/capability.

d. Use risk management procedures in executing METL tasks.

Vignette

Topic: *Fratricide in a Minefield*

Discussion:

Situation: *A mechanized infantry battalion task force was conducting a defense against a motorized rifle regiment. The brigade OPORD and graphics contained a plan to execute a FASCAM minefield, on order, under brigade control, in the battalion's sectors. The battalion had to structure the defense around the planned minefield.*

Problem: *The battalion did not control the installation of the minefield. The brigade would execute the minefield based on the flow of the battle as determined from the combat*



reporting. Only the intent to install the obstacle and the approximate location was detailed in the OPORD.

Identify the Hazard: The battalion task force engineer identified the minefield as a potential fratricide hazard during the mission analysis phase of the tactical decisionmaking process. He knew elements of the task force would be moving around the obstacle during the battle because it would cover a major route through the battalion sector. The obstacle would pose as much a hazard to friendly elements as it would to the enemy if the location was not thoroughly disseminated.

Assess the Hazard: The task force engineer informed the battalion commander he assessed the hazard as extremely high. It was on a major route through the sector and would be emplaced by the brigade during the heat of battle with little or no warning. Friendly units moving from battle position to battle position could easily become trapped in the minefield and become casualties.

Identify Control Options and Make Decisions: The battalion commander knew he did not have the authority to alter the brigade OPLAN. The brigade would maintain control of the emplacement of the obstacle. He would have to control the hazard through the battalion OPORD, backbriefs, and rehearsals.

The task force engineer placed the FASCAM minefield on the battalion obstacle overlay. He highlighted the need for everyone in the task force to know the intended location of the minefield from the very start of the defense during his portion of the OPORD brief. The battalion commander reinforced him by emphasizing to the subordinate commanders the need for each to ensure soldiers understood where the obstacle would be emplaced.

The commander insisted that all elements plan, mark, and rehearse movements through the sector in a manner that would ensure the minefield would always be bypassed before it was actually emplaced.

Implement Controls: The information concerning the FASCAM minefield was disseminated to the lowest levels of the task force. The medics discovered that they were the element of the battalion most affected by the obstacle. They planned their casualty evacuation routes in and out of the battle positions to the collection points in such a manner that would avoid the minefield. They marked and rehearsed their routes in limited visibility and during daylight. All of their graphics clearly identified the intended minefield.

Supervise: The attack began, and brigade determined that the enemy main effort was from an unexpected direction. The location of the FASCAM minefield was changed. The obstacle was executed, and the battalion was informed almost simultaneously. The battalion was unable to disseminate the change to the lowest levels rapidly enough to prevent elements from driving through the new location.



Two medical vehicles completed the pickup of casualties at a battle position and were returning fully loaded to the collection point along their previously marked and rehearsed route. This route took them directly through the new location of the FASCAM minefield. The unsuspecting medics entered the minefield and all onboard the vehicles were killed.

The brigade had determined the risk from the enemy required rapid change to the obstacle plan. The commander did not consider the possible impact on friendly units moving through the sector. No one on the brigade staff conducted an assessment of the potential hazard for the commander. The only control implemented by the brigade staff was a radio message that the minefield was being executed immediately and, incidentally, at a new location.

The minefield did not slow or detour the enemy in their attack. They bypassed the minefield and continued their attack deep into the task force sector. The only casualties inflicted by the mines were the medics and the wounded being evacuated.

Lesson(s): Changes in a plan must undergo a risk management analysis. This is especially true when a hazard is high risk.

Topic: OPTEMPO vs Safety

Discussion: The safety challenge in the early stage of the deployment of getting service members to perform tasks to standard was offset by the premise “get it done and get it done fast.” This left the service member with the perception that safety requirements could be disregarded. The potential existed for a major accident to happen in critical areas such as vehicle operations, weapons handling, materials handling operations, explosive safety, and fuel point operations.

Because the attitude of “get it done and get it done fast” was prevalent, nearly everything service members were taught in the areas of vehicle, weapon, fuel operations, and materials handling safety was disregarded. When service members were being interviewed while making on-the-spot corrections or while investigating an accident, their response was

that while they knew the standards, they didn't apply outside the United States and particularly not during a “real-world” mission. Service members are either improperly trained, improperly informed, or simply draw their own conclusions as to when they must follow standards.

This observation was proven over time in that as the OPTEMPO decreased, safety compliance increased. Without clear direction and realistic time frames to accomplish missions, subordinates will perceive that the boss meant “right now--at all cost.”

Lesson(s): Leaders at all levels must be sensitive to the perception and reaction of subordinates to directives. They must keep subordinates focused on performing tasks to standards regardless of the pace of the operation.☺

RISK MANAGEMENT TOOLS THAT CAN IDENTIFY SHORTCOMINGS IN FORCE PROTECTION

FORCE PROTECTION FACTORS

TOOLS	Support	Standards	Training	Leader	Individual
Unit Accident Analysis	X	X	X	X	X
Commander's Training Assessment	X		X	X	
Army Training Evaluation Plan			X		
Mission Training Plan		X			
Mission Readiness Report (USR) { Equipment Training Personnel Overall	X X X		X X		
Next Accident Assessment	X	X	X	X	X
Safety Readiness Quiz			X		
METL Risk Assessment	X	X	X	X	X
Observation and After Action Review	X	X	X	X	X
Mission Risk Management	X		X	X	

TYPES OF ACCIDENTS		COMMON REASONS				
GROUND OPERATIONS		INDIVIDUAL	LDR	TNG	STDS	SUPPORT
<ul style="list-style-type: none"> Wheeled Vehicle Tracked Vehicle Weapon Handling Maintenance Material Handling Combat Soldering Other (specify) 						
<ul style="list-style-type: none"> Aviation Operations Tree Strike Wire Strike Brownout/Whirlout Overtorque Hard Landing IMC Other (specify) 						
CAUSE FACTORS						
Human Error (80%) (See List Below)						
<ul style="list-style-type: none"> Environment (15%) Surface Space (e.g. rough, inclined, slippery, confined) Orientation (e.g. dark, bright) Perceptual (e.g. fog, rain, ice, snow) Visual (e.g. glare, rain, fog, snow) Wind/Turbulence (e.g. rain, fog, snow) Confusion (e.g. carbon monoxide, fumes, chemicals, foreign objects/debris) Animals (e.g. snakes, poison plants) Other (specify) 						
Material Equipment Failure (5%)						
<ul style="list-style-type: none"> Wheeled Vehicle (Brakes, Tires, Exhaust System, etc.) Tracked Vehicle (Tracks, Drive System, Treads, etc.) Weapon (Fuel System, Magazine, Trigger, Sights, etc.) Maintenance (Airframe, Landing Gear, etc.) Maintenance (Fuel System, Electrical, etc.) Other (specify) 						
HUMAN ERROR - Ground Operations		COMMON REASONS				
INDIVIDUAL		LDR	TNG	STDS	SUPPORT	
Wheeled Vehicle						
Excessive Speed		X	X	X	X	
Unsafe Road Conditions		X	X	X	X	
High Maneuvering Drive Hours		X	X	X	X	
Improper Turnings		X	X	X	X	
Unsafe Maneuvering Condition		X	X	X	X	
Improper Braking		X	X	X	X	
Excessive Jostle/Choke		X	X	X	X	
Improperly Dimensioned Vehicle		X	X	X	X	
Other (Specify)						
TRACKEE VEHICLE						
B.D.A. Conditions Checks		X	X	X	X	
Brush Terrain		X	X	X	X	
Excessive Speed		X	X	X	X	
Darkness/Conditions		X	X	X	X	
Improper Ground Guidance		X	X	X	X	
Curve Characteristics/Conditions		X	X	X	X	
Improperly Dimensioned Vehicle		X	X	X	X	
Other (Specify)						
WEAPONS (M/R/L)						
Substance/Amount/Class/Direction		X	X	X	X	
Unsubstantiated Use/Handling (Drops)		X	X	X	X	
Carried/Lifted/Transported		X	X	X	X	
Disassembled/Unloaded (Improperly cleaned)		X	X	X	X	
Back/Double/Loaded		X	X	X	X	
Leaving/Arriving		X	X	X	X	
Excessive		X	X	X	X	
Assembling/Disassembling/Improperly cleaned		X	X	X	X	
Other (Specify)						
MAINTENANCE						
Improper Use of Tool/Equipment		X	X	X	X	
Improper Lifting		X	X	X	X	
Improper Body Position		X	X	X	X	
Improperly Secured/Marked/Equipment		X	X	X	X	
Improper Push/Pull/Carry/Hold		X	X	X	X	
Inadequate Inspection (Components, Equip/Areas)		X	X	X	X	
Other (Specify)						

HUMAN ERROR - Ground Operations (Cont'd)		COMMON REASONS				
INDIVIDUAL		LDR	TNG	STDS	SUPPORT	
MATERIAL HANDLING						
Improper Technique		X	X	X	X	
Unsecured/Unstable Load		X	X	X	X	
Environmental Hazard		X	X	X	X	
Carrying Capacity/Carry		X	X	X	X	
Equipment Damage		X	X	X	X	
Other (Specify)						
COMBAT SOLDIERING						
Tactical Positioning - Improper Exit						
Improper Discreet						
Improper Exit						
Transferring Terrain Under Adverse Env. Conditions						
Carrying/Loading						
- Humoring/Emphasizing Not. (Exaggerated)						
- Failing to Maintain 3 Points of Contact on Yards						
Other (Specify)						
OTHER (SPECIFY)						

HUMAN ERROR - Aviation Operations		COMMON REASONS				
INDIVIDUAL		LDR	TNG	STDS	SUPPORT	
Sole		X	X	X	X	
Coordinate		X	X	X	X	
Defect Hazard/Obstacles		X	X	X	X	
Maintain/Recover Orientation		X	X	X	X	
Plan - Profiled		X	X	X	X	
Plan - Drifts/Fluct		X	X	X	X	
Diagnose/Respond to Emergency		X	X	X	X	
Estimate Distance/Closure		X	X	X	X	
Other (Specify)						

REASONS	
INDIVIDUAL (48%): SOLDIER KNOWS AND IS TRAINED TO STANDARD BUT ELECTS NOT TO FOLLOW STANDARD (SELF DISCIPLINE)	<ul style="list-style-type: none"> ATTITUDE OVERCONFIDENCE ALCOHOL/DRUGS HASTE
LEADER (18%): LEADER DOES NOT ENFORCE KNOWN STANDARD	<ul style="list-style-type: none"> DIRECT SUPERVISION - UNIT COMMAND SUPERVISION HIGHER COMMAND SUPERVISION
TRAINING (16%): SOLDIER NOT TRAINED TO KNOWN STANDARD (INSUFFICIENT INCORRECT OR NO TRAINING ON TASK)	<ul style="list-style-type: none"> SCHOOL UNIT EXPERIENCE, OJT
STANDARDS (6%): STANDARDS/PROCEDURES NOT CLEAR OR PRACTICAL OR DO NOT EXIST	<ul style="list-style-type: none"> TASK - CONDITION - STANDARD OPERATING PROCEDURES (AR, TM, FM, SOP, ETC.)
SUPPORT (6%): EQUIPMENT/MATERIAL IMPROPERLY DESIGNED/NOT PROVIDED, INSUFFICIENT NUMBER/TYPE OF PERSONNEL, INADEQUATE MAINTENANCE/FACILITIES/SERVICES	

GROUND SAFETY QUIZ

-TOP 10 QUESTIONS MISSED-

<u>Q#</u>	<u>TOPIC</u>	<u>MISSED</u>
22	HEATER/STOVE OPNS - TENT STOVE	96% (45)
49	ENVIRONMENT - RABIES	87% (41)
36	VEHICLE OPNS - FOLLOWING DISTANCE	83% (39)
10	WEAPONS HANDLING - SMALL ARMS	77% (36)
50	ENVIRONMENT - LIGHTING	77% (36)
35	VEHICLE OPNS - SPEED LIMITS	72% (34)
47	TRANSPORTING AMMUNITION	72% (34)
25	COLD INJURY - ACCLIMITIZATION	64% (30)
20	HEATER OPNS - HEATER FUEL	60% (28)
7	RISK MGMT - HAZARD ASSESSMENT	57% (27)
2	HUMAN ERROR ACCIDENTS	51% (24)
39	VEHICLE OPNS - TRACK VEHICLE & TROOPS	45% (21)

SCORE SUMMARY

BEST	86% (1 SOLDIER)
AVERAGE	71% (47 SOLDIERS COMPLETED QUIZ)
WORST	40% (1 SOLDIER)

AVIATION SAFETY QUIZ

-TOP 10 QUESTIONS MISSED-

<u>Q#</u>	<u>TOPIC</u>	<u>MISSED</u>
25	POSITIVE COMMUNICATION	54%
1	AVIATION ACCIDENT LOSSES - WARTIME	50%
8	INADVERTENT IMC	50%
9	PERFORMANCE PLANNING UPDATE - REQTS	45%
5	PROBLEM RELATED TO IMC	37%
40	NIGHT AIDED CREW ERROR ACCIDENTS	37%
45	IR - BAND PASS FILTER - REQTS	37%
37	FACTORS IN 'FAILURE TO DETECT' - ACCIDENTS	33%
46	BROWN OUT	29%
3	READINESS DEFICIENCIES - ACCIDENTS	25%
6	FLIGHT OVER FLAT TERRAIN	25%

SCORE SUMMARY

BEST	96% (1 SOLDIER)
AVERAGE	86% (24 SOLDIERS COMPLETED QUIZ)
WORST	76% (1 SOLDIER)

**Typical Soldier Response To:
“Actions I Will Take to Reduce My Accident Risk”**

- ➡ Thoroughly plan and supervise all vehicle movements.
- ➡ Infuse risk management considerations and controls into all battalion staff planning and orders.
- ➡ Conduct PCI of all personnel and equipment.
- ➡ Conduct additional leader training for LOGPAC and ROM operations.
- ➡ Establish internal soldier and leader rest plans.
- ➡ Protect “MILES casualties” from unnecessary exposure to cold weather injuries during the evacuation process.
- ➡ Provide hazard identification, assessment and control recommendations for each operation at the shift change briefings.
- ➡ Put soldier safety considerations into every mission.
- ➡ Make on-the-spot corrections and enforce safety standards.
- ➡ Identify high risk soldiers and monitor their performance.
- ➡ Conduct mission risk assessments and establish controls or ask for help.
- ➡ Learn and enforce all safety standards and provide supervision.
- ➡ Cross-train all crews.
- ➡ Increase emphasis on Night Vision Device training and driving.
- ➡ Focus on each task.
- ➡ Drink plenty of water, eat well and get as much rest as possible.
- ➡ Pay attention to the environment and wear cold weather gear correctly.
- ➡ Brief soldiers on the mission hazards and controls.
- ➡ Use buddy teams.
- ➡ Think before acting and not be impatient.
- ➡ Fix or report problems to the chain-of-command.
- ➡ Stay alert for hazardous conditions.
- ➡ Follow appropriate speed for the conditions.

“Chain-of-Command Action(s) Needed to Reduce My Accident Risk”

- ➡ Schedule and deconflict problems at washracks and motorparks.
- ➡ Provide clear, consistent and timely mission guidance.
- ➡ Develop and enforce key leader, TOC and staff rest plans.
- ➡ Provide time and resources to plan and execute missions.

ACCIDENT RISK ASSESSMENT OF PERSONNEL RATED BY COMMANDERS/LEADERS

RISK FACTORS (FROM NEXT ACCIDENT ASSESSMENT)		POINTS	PERCENT OF PERSONNEL
1. Self discipline (dependability)		8	18%
a. Counseled for poor performance		8	8
b. Had at fault accidents/citations		8	4
c. Abused alcohol/drugs		8	7
d. Had judicial/non-judicial punishment		8	4
e. GT score of 90 or less		8	53
f. Males under age 25		8	
2. Leadership (enforcement of standards)		6	29
a. Insufficient knowledge/experience		12	21
b. Tolerates below-standard performance		9	5
3. Training (job skills and knowledge)		9	10
a. MOS SDT (SQT) score less than 70		9	
b. Not proficient in assigned tasks outside MOS		4	8
4. Standards (task-cond-std/procedure)		4	13
a. Do not exist		4	
b. Not clear/practical		2	13
5. Support (insuff amount/type/condition)		2	14
a. Equipment		2	18
b. Supplies		2	27
c. Services/facilities		2	
d. Personnel		2	

• 91 Soldiers were assessed by 19 Commanders/Leaders

• Assessment results were:

RISK LEVEL PERCENT OF SOLDIERS

Extremely High 2%

High 11%

Medium 15%

Low 71%

• Indicators/sources of accident risk as reported are shown at left.

ASSESSMENT OF ACCIDENT RISK FOR METL

RISK RANK OF METL	NUMBER OF PERSONNEL	RISK OF HAVING ACCIDENT			
		LOW	MED	HI	EXT HI
1. TRANSITION TO MISSION	20	1.50			
2. DEPLOY/REDEPLOY	20	2.25			
3. PERFORM TACTICAL ROAD MARCH	20	1.65			
4. FIGHT MEETING ENGAGEMENT	20	2.20			
5. ATTACK	20	2.30			
6. DEFEND	16	1.56			
7. PEACEKEEPING/PEACE ENFORCEMENT	20	2.05			

REASONS FOR ACCIDENT RISK IN METL TASKS

1. TRANSITION TO MISSION - MEDIUM RISK

- first mission
- many inexperienced/untrained crews

2. DEPLOY/REDEPLOY - HIGH RISK

- first and last mission
- fatigue and many hours of driving
- 100+ vehicles in convoy, 80+ vehicles by rail
- German roads in adverse weather
- new crews and leaders (rail loading experience)
- too many distractors

3. PERFORM TACTICAL ROAD MARCH - MEDIUM RISK

- tired soldiers anticipating next mission
- German roads in adverse weather

4. FIGHT MEETING ENGAGEMENT - HIGH RISK

- maneuver in highly fluid environment
- untrained/inexperienced personnel
- all new drivers, little time in vehicles practicing maneuvers
- minimal training between crews and squads
- too many distractors
- new soldiers not trained to fight as a crew

5. ATTACK - HIGH RISK

- moving fast
- night/early morning, little sleep, late in rotation
- untrained/inexperienced personnel
- new drivers in all vehicles, little time in vehicles practicing maneuvers
- handling of demolitions, increased use of heavy equipment

Force Protection (Safety) Assessment

Input to

Commander's Training Assessment

(FM 25-100 & FM 25-101)

FORCE PROTECTION READINESS

ASSESSMENT OF BATTLEFIELD OPERATING

SYSTEM (BOS) FUNCTIONS

	M	A	N	C	I	M	C	A	A	C	R	I	D	S	K	E	N	T
MISSION ESSENTIAL																		
TASK																		
MOVE																		
THE BDE																		

ACCIDENT RISK CONTROL OPTIONS

LONG TERM (EXAMPLES)

- HAVE NCOs DEVELOP AND IMPLEMENT A COMPLETE BRIGADE-LEVEL SAFETY TRAINING PROGRAM (CSS-L, T & C&C-T, L)
- ADD SAFETY CRITERIA TO THE LEADER CERTIFICATION PROGRAM AT BATTALION AND COMPANY LEVELS (CSS-L, T & C&C-L, T)
- COUNTER SHORTAGE OF PVS-7 NVGs BY REDISTRIBUTING FROM SISTER UNITS FOR TRAINING AND USE IN FTX NIGHT MISSIONS (CSS-T, S)

NEAR TERM (EXAMPLE)

- INITIATE DEVELOPMENTAL/SUSTAINMENT PERFORMANCE-ORIENTED TRAINING (SAFETY STAKES) FOR GUIDANCE IN NTC RULES OF ENGAGEMENT AND INSTALLATION'S TACTICAL SAFETY HANDBOOK. (CSS-T & C&C-T, L)

SHORT TERM (EXAMPLE)

- FTXs - IN ADDITION TO NORMAL DUTIES, REQUEST CONTROLLERS/TRAINERS FOCUS SAFETY ON-SPOT CORRECTIONS AND AAR OBSERVATIONS ON THE FOLLOWING ACCIDENT PROBLEM AREAS: WHEEL-EXCESSIVE SPEED & FOLLOWING TOO CLOSE, TRACK-BEFORE/DURING/AFTER OPERATION CHECKS, ROUGH TERRAIN PRECAUTIONS (SEAT BELTS & EQUIPMENT SECURED) & IMPROPER GROUND GUIDING. (CSS-L, L)

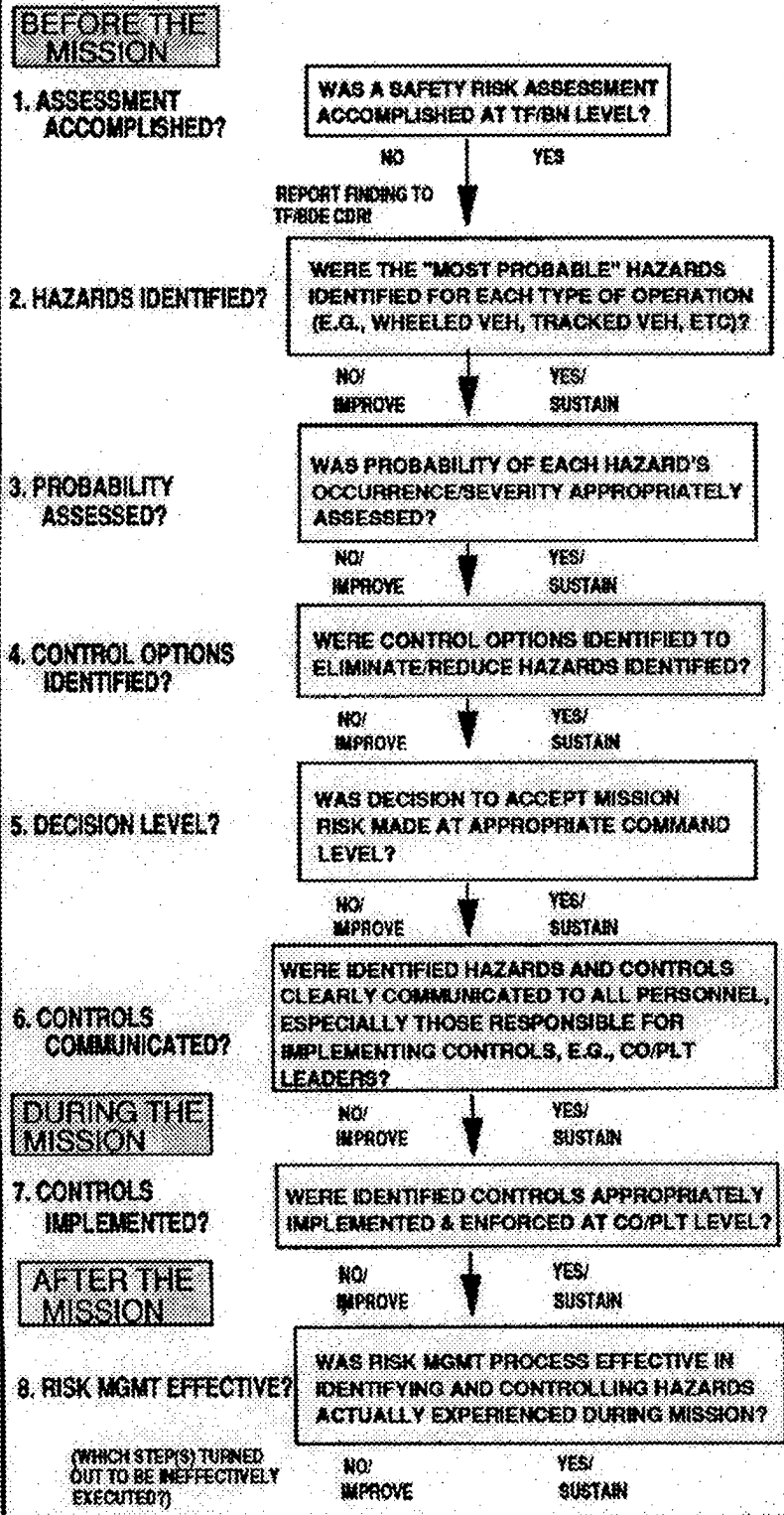
LEGEND - BOS FUNCTION READY TO EXECUTE TRAINING (R)

- BOS FUNCTION NOT READY DUE TO SHORTCOMINGS IN: TRAINING (T) LEADERSHIP (L),

STANDARDS/PROCEDURES (P), SUPPORT (S), OR SELF DISCIPLINE OF INDIVIDUALS (I)

- ACCIDENT RISK: EXTREMELY HIGH (E), HIGH (H), MEDIUM (M), LOW (L)

RISK MANAGEMENT ASSESSMENT



FORCE PROTECTION (SAFETY) OBSERVATION

CALL SIGN Werewolves

1. UNIT B - 3/29 DTG 071930 Apr 93

2. TYPE OPERATION (CHECK ONE)

WHEELED VEHICLE	<u> </u>	MATERIEL HANDLING	<u> </u>
TRACKED VEHICLE	<u>X</u>	COMBAT SOLDIERING	<u> </u>
WEAPONS HANDLING	<u> </u>	AVIATION OPS	<u> </u>
MAINTENANCE	<u> </u>	OTHER	<u> </u>

3. PROBLEM AREA (SEE LIST)

- Operation/precautions for rough terrain

Two soldiers, one standing and the other kneeling on top of M548 ammunition carrier while the vehicle was moving forward/

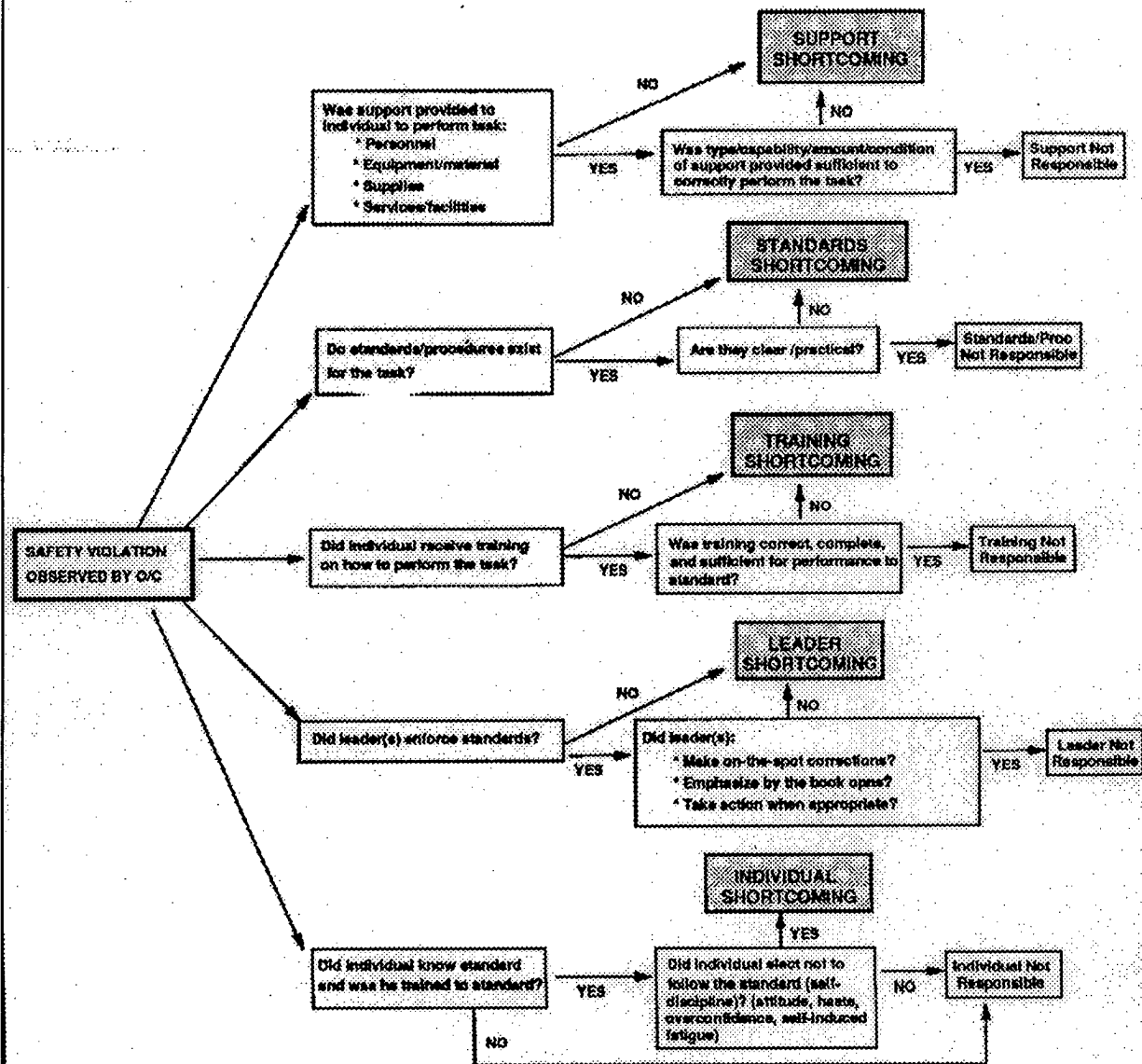
[Ref: NTC ROE - Tracked Vehicle Operations, Crew and Passenger Protection]

4. FORCE PROTECTION SHORTCOMING(S) - (CHECK ONE OR MORE)

INDIVIDUAL	<u>X</u>	STANDARDS	<u> </u>
LEADER	<u>X</u>	SUPPORT	<u> </u>
TRAINING	<u> </u>		

5. CONTROLS COMMUNICATED?	YES <u>X</u>	NO <u> </u>
6. CONTROLS IMPLEMENTED?	YES <u> </u>	NO <u>X</u>

DETERMINING FORCE PROTECTION SHORTCOMING(S) RESPONSIBLE FOR SAFETY VIOLATIONS



RISK MANAGEMENT ASSESSMENT

RISK MANAGEMENT STEP	ASSESSMENT		COMMENTS
	Sustain	Improve	
BEFORE THE MISSION			
1. ASSESSMENT ACCOMPLISHED?		X	NOT A ROUTINE STEP WITHIN MISSION ANALYSIS
2. HAZARDS IDENTIFIED?		X	ONLY THE MOST OBVIOUS HAZARDS IDENTIFIED. SPORADIC INPUT
3. PROBABILITY ASSESSED?		X	NOT INCLUDED IN COA WARGAMING OF EVALUATION CRITERIA
4. CONTROL OPTIONS IDENTIFIED?	X		OPTIONS WERE PRESENTED TO REDUCE RISK
5. DECISION LEVEL?	X		RECOMMENDATIONS APPROVED BY BN CDR DURING DECISION BRIEF
6. CONTROLS COMMUNICATED?	X		CONTROLS BRIEFED AS PART OF OPORD
DURING THE MISSION			
7. CONTROLS IMPLEMENTED?	X		CHAIN OF COMMAND EMPHASIS
AFTER THE MISSION			
8. RISK MGMT EFFECTIVE?		X	NO DOCUMENTATION/AAR

FORCE PROTECTION - SAFETY

REASON	INCIDENTS
INDIVIDUAL (Self discipline to standard)	(1) SOLDIERS NOT MAINTAINING 3 POINTS OF CONTACT WHILE MOVING ON TOP OF TRACK VEHICLES.
	(2) SOLDIER SUSTAINED A HEAD WOUND AFTER BEING HIT BY A CAMOUFLAGE POLE.
LEADER (Enforce standards)	(1) PRE CUT CHARGES.
	(2) LACK OF SECONDARY CHECKS RESULTED IN FUSE SETTING ERROR ENDANGERING THE WELL BEING OF FRIENDLY SOLDIERS.
	(3) LACK OF SECONDARY CHECKS RESULTED IN ROUND LANDING IN THE WRONG PLACE DURING A SMOKE MISSION.
TRAINING (Skills to standard)	LACK OF DRIVERS TRAINING RESULTED IN A SITUATION WHICH ENDANGERED
	THE WELL BEING OF SOLDIERS GROUND GUIDING A 5-TON TRUCK WHILE
	BACKING UP.
STANDARDS (Standards/procedures clear & practical)	
SUPPORT (Equipment, personnel, facilities, maintenance, services to standard)	

INTEGRATION OF RISK MANAGEMENT INTO DECISION MAKING PROCESS

MISSION RISK MANAGEMENT

1. PERFORM RISK ASSESSMENT

- A. GATHER & ANALYZE MET-T FACTS TO IDENTIFY HAZARDS MOST LIKELY TO RESULT IN LOSS OF COMBAT POWER
- B. COMPLETE RISK ASSESSMENT FOR EACH COURSE OF ACTION (COA)
- C. ENTER RISK LEVEL OF EACH COA AS A DECISION CRITERION

2. PERFORM RISK MANAGEMENT

- A. MAKE RISK DECISION FOR SELECTED COA - ACCEPT RISK LEVEL OR ELEVATE DECISION
- B. IDENTIFY AND SELECT CONTROLS FOR HAZARDS MOST LIKELY TO RESULT IN LOSS OF COMBAT POWER
- C. COMMUNICATE & IMPLEMENT CONTROLS - INTEGRATE INTO PARAGRAPHS AND GRAPHICS OF OPORD
- D. SUPERVISE - MONITOR/ENFORCE CONTROLS

DECISION MAKING

- 1. RECEIVE MISSION
- 2. GATHER AND CONSIDER INFORMATION
- 3. COMPLETE MISSION ANALYSIS, RESTATE MISSION AND ISSUE PLANNING GUIDANCE
- 4. COMPLETE STAFF ESTIMATES
 - A. DEVELOP/ANALYZE/COMPARE COAs (WARGAME)
 - B. RECOMMEND COA
- 5. COMPLETE COMMANDER'S ESTIMATE
 - A. ANALYSIS OF COAs
 - B. DECISION (SELECT COA)
- C. CONCEPT OF OPERATION (MAKE RISK DECISION AND SELECT CONTROLS)
- 6. PREPARE PLANS/ORDERS
- 7. APPROVE
- 8. ISSUE
- 9. SUPERVISE

Example of Risk Management Integrated Into a Mission Training Plan Task

TASK: C2 THE BATTALION (7-1-1901)(FM 7-20)

ITERATION 1 2 3 4 5 (circle)

TRAINING STATUS T P U (circle)

CONDITION: The brigade-issues an OPORD or FRAGO.

TASK STANDARD: (* denotes leader task, + denotes critical task)

a. The battalion plan accomplishes the directed mission and specified tasks IAW the brigade commander's concept and intent. The plan is received and understood by the leadership of the battalion, who makes the plan successful. It is coordinated with higher, adjacent, and supporting elements.

b. The plan is as fully prepared as time allows to initiate the mission at the directed time.

c. The battalion controls and synchronizes subordinate and supporting elements so that it accomplishes the mission and protects the force. **Hazards are identified and controlled by integrating risk management into the tactical decision making process.**

d. The battalion keeps higher, adjacent, subordinate, and supported headquarters informed of essential information key to controlling the battle or making required decisions.

SUBTASKS AND STANDARDS:

GO NO-GO

+1. Battalion leaders issue the warning order.

a. A complete warning order is issued within 15 minutes of receipt of the brigade order.

b. Warning order is received by all platoons within 45 minutes of issuance of battalion warning order.

*2. Battalion commander analyzes mission and gives initial guidance.

a. Guidance includes restated mission, which includes brigade commander's intent for battalion, and identifies all specified and implied tasks.

b. Guidance includes instructions on information requirements and initially required preparation actions (movement, resupply) to start.

c. **Guidance includes levels within chain of command authorized to accept levels of risk (very high, moderate, low) for risk decisions.**

d. Guidance is given within 30 minutes of receipt of order.

+3. Battalion accomplishes reconnaissance and other actions to gather needed information.

a. Reconnaissance actions begin to physically gain information on the enemy and terrain as early as possible.

b. Commander conducts a personal reconnaissance, when possible. If not, the commander conducts a detailed map reconnaissance.

c. Subordinate leaders perform a personal reconnaissance, when possible. See subordinate company (ARTEP 7-10-MTP) and platoon (ARTEP 7-8-MTP) T&EOs.

d. Staff coordinates with subordinates, higher, and adjacent headquarters to gather information for planning.

e. **Staff analyzes mission to identify hazards.**

f. Staff provides operations, intelligence, and CSS estimates to include all critical METT-T factors and **identified hazards.**

+4. Battalion commander develops and war games courses of action and selects one.

a. Tactically feasible courses of action (include CS and maneuver) are made and war gamed with the available staff (commander, S3, and FSO are best for quick planning sequences; XO, S2, engineer, S4, S3 (Safety) and ADA officer are best in more deliberate situations).

b. **Each course of action contains assessment of hazards, risk level, and control measures identified to lower/control the risk.**

c. Best course of action is selected.

d. Course of action is war gamed and refined by the command and staff. The staff must understand the concept to produce a sound OPOD and to rehearse.

e. **Risk and/or control measures requiring elevation to the higher levels of command for a decision and acceptance are identified and elevated.**

*5. Staff develops an OPLAN/OPOD from the commander's guidance.

a. OPLAN/OPOD successfully accomplishes the mission IAW higher commander's intent.

b. **Hazard/risk control measures are included in the appropriate paragraphs and graphics.**

*6. FRAGOs are issued to subordinates as soon as decisions **(to include acceptance of risk)** are made.

*7. Battalion commander issues the OPOD/FRAGO.

a. OPOD/FRAGO is issued IAW one-third, two-thirds rule, and makes full use of daylight time.

b. OPOD/FRAGO accomplishes all directed missions and tasks, complies with the brigade commander's intent, **controls risks**, and is doctrinally sound. (It is based on evaluator judgement, and on comparison of brigade OPOD and battalion OPOD).

c. All subordinate and supporting elements receive the OPOD/FRAGO.

d. OPOD/FRAGO contains task organization, mission, concept, **authority for acceptance of risk**, and intent for maneuver, supporting fires, and obstacles, missions/tasks for each subordinate, fire support/CSS instructions, and coordinating instructions needed to synchronize the efforts of maneuver forces and CS.

e. If more time is available, the battalion commander issues a fully developed OPORD. (Although an initial FRAGO may be issued to allow subordinates to begin preparation and followed by a full OPORD.)

f. Order is given at a location that reduces travel time, allows observation of the zone/sector, and promotes OPSEC. (Depending upon the METT-T factors, observation of the zone/sector may not be possible.)

g. Battalion commander should perform confirmation brief and war gaming, **to include identifying hazards and control measures**, after the order to improve subordinate understanding and reaction.

h. Subordinate leaders and staff should perform lateral coordination before leaving the orders site.

+8. Commander and staff coordinate and refine the plan.

a. Time is well used to continue gathering information and to improve the plan (contingency plans, **hazard Identification and controls**, fire plans).

b. New information is disseminated and coordinated with higher, adjacent, and supporting headquarters to include--

- Changes or refinements in plan.
- Information on the enemy in the sector or zone.
- Information that impacts on planning and execution (**risk acceptance decisions/hazard controls**) of subordinate elements.
- Adjustments/changes in the plans.

+*9. Battalion executes changes in task organization.

a. Main CP coordinates linkup location, time, and responsible element.

b. Attachments/new elements are received at the coordinated location and time; updated on current situation, OPORDs, and SOIs; and resupplied.

c. Detachments reach the linkup point at the time and place directed.

+*10. Battalion performs, and commander and staff perform, supervise, and monitor preparations.

a. Command group/XO performs backbriefs with subordinate commanders, leaders, and key staff.

b. Main CP maintains status of preparations.

c. Elements make full use of time to prepare for the operation. Subjective judgement of the evaluator is based on the analysis of preparation charts and available time.

+*11. Battalion sees the battlefield.

a. Command group is positioned to see and move.

b. Companies and other subordinates accurately report critical information on actions and changes in combat status within five minutes. See subordinate MTPs.

c. Main CP collects, analyzes, and passes critical information.

d. Subordinates execute intelligence collection plan. See subordinate element MTPs.

e. **Subordinates integrate risk management process into development of plans and execution of tasks.**

+*12. Battalion leaders command and control the execution.

a. Subordinate elements report enemy and friendly actions, change in status, and any other factor that would require change within three minutes.

b. Battalion leaders win the battle by directing the maneuver of units, controlling direct and indirect fires, **properly integrating risk management into planning and execution**, and directing other CS actions to cope with new METT-T/risk factors. Indicators are:

- Elements not following OPLAN/OPORD are corrected.

- Responses to new METT-T/**hazards** are directed soon after the new situation occurs.

- No friendly casualties inflicted by friendly direct or indirect fires **or other accidents.**
- Number/percentage of direct fire weapons engaging the enemy.
- Number/percentage of indirect weapons engaging enemy.
- Number of enemy casualties.
- Number of friendly casualties.
- c. Command and control, and CSS assets are controlled to support maneuver effort. Indicators are:
 - Effective CSS, and command and control.
 - Command and control or CSS elements not destroyed by enemy direct fires.
- d. FRAGOs are clear, concise, **include risk management,** and quickly executed by subordinates.
- e. Changes that affect the battle are disseminated within five minutes.

+13. Subordinate commanders, leaders, and staff laterally coordinate actions during the battle.

- All battle actions requiring coordination between elements are coordinated.

+14. Battalion coordinates with adjacent and supporting headquarters.

- All battle actions requiring coordination with other headquarters are laterally and promptly coordinated.

+*15. Battalion reports.

a. Battalion CPs submit all critical and required reports to brigade. They report events to adjacent and supporting elements that impact on them in time for those units to react.

b. **Risk acceptance decisions are elevated to the appropriate level of command for decision.**

Example of Risk Management Integration In OPORD

1. SITUATION:

a. **Enemy forces.** This subparagraph contains information describing the enemy's most probable course of action. This information is expressed in terms of one enemy echelon below the level of the unit preparing the order. A sketch of the enemy course of action is provided in lieu of verbiage. The potential terrorist threat is addressed if appropriate. This paragraph also contains an assessment of terrorist activities directed against US government interests in the area of operations.

Hazards that may adversely affect the mission may also be listed in this subparagraph. The probability of occurrence (if known) and level of risk associated with each hazard should be included. The cumulative affect of multiple hazards should also be addressed (several low risk level hazards may create a high risk level for the mission).

b. **Friendly forces.** This subparagraph includes--

-The mission of the higher unit, the higher commander's intent, level of risk acceptance authority, and the concept of operation.

-Additional subparagraphs which state the missions of the units to the immediate left and right and other critical units whose actions have a significant bearing on the issuing headquarters.

-Additional instructions for minimizing exposure to fratricide, specifically, actions that units must take which are not inherent in existing C2 measures.

c. **Attachments and detachments.** Do not repeat information already listed under task organization. Strive to put all information in task organization. State when attachment or detachment is to be effective if different from when the OPORD is effective. Use the term "remains attached" when units will be or have been attached for some time.

2. MISSION.

Clearly, concisely state the mission. The WHO does WHAT, WHEN, WHERE, and WHY. This should result from essential tasks derived during mission analysis. There are no subparagraphs.

3. EXECUTION.

Intent: Intent (the commander's stated vision) defines the purpose of an operation; the end state with respect to the relationship of the force, the enemy, and the terrain; the accepted risks, and briefly, how the force as a whole will achieve the end state. Briefly state the HOW using appropriate doctrinal terms.

a. **Concept of operation.** (Operation Overlay). This statement expands the commander's intent, particularly his vision of HOW he will conduct the operation and WHO he will assign to perform it. The concept of operations should be the COA statement from the deliberate decision-making process. It should address close, deep, rear, security, force protection, and reserve operations as well as describe the overall form of maneuver and designate the main effort. The commander uses this subparagraph when he feels he must supply sufficient detail to ensure appropriate action by subordinates in the absence of additional communications or further instructions.

After the concept of operation statement, include any subparagraphs needed to clarify the concept and to ensure synchronization. Control measures selected to reduce the risk of identified hazards should be included in these paragraphs. Phase the operation only if required. If phased, be sure subsequent paragraphs clearly outline what is to happen during each phase. The sequence of subparagraphs follows.

(1) Maneuver. Provide a clear, concise narrative of the scheme of maneuver from the beginning to the successful end of the operation. As required, choose items that show the total synchronized battle (which consists of deep, close, rear, and force protection operations) in a sequence that promotes clarity. Designate the main effort and identify when it changes. Address the elements of the battlefield framework. Be sure this paragraph is consistent with the operations overlay, each adding to the clarity of, rather than duplicating or contradicting, the other. Do not

duplicate information to be incorporated into unit subparagraphs or coordinating instructions.

(2) Fires. Clarify "scheme of fires" to support the overall concept. Designate which maneuver unit has priority of fires ("main effort"); priority use of low-density munitions; priority as to type of fires for GS units; preparatory fires; and use of illumination, if required. Establish priority of AF support. If the FS support annex is the only one referenced, show it after "(2) Fires". Counter fratricide measures unique to fires may be included in this paragraph.

(3) Counter air operations. Clarify overall concept of counter air operations in support of the scheme of maneuver, if necessary. Include consideration of potential AF counter air support as well as the actual contribution of dedicated AD units. Establish priority of air defense for GS units and provide AD weapons status and warning status. Address counter fratricide control measures.

(4) Intelligence. Clarify effort to support overall concept. Establish priorities of organic collection effort to support scheme of maneuver.

(5) Electronic warfare. Establish priority of collection and jamming as to type of targets required to support the scheme of maneuver.

(6) Engineer. Clarify effort to support overall concept. Indicate priority of support ("main effort"), and provide priority of mobility and survivability aspects as appropriate for GS units. Establish priority of FASCAM support as appropriate. Establish counter fratricide control measures as appropriate and address force protection control measures related to mobility and counter mobility efforts. Delegate or withhold authority to emplace obstacles.

(7) Deception. Clarify effort to support overall concept. State WHO and WHAT would aid the deception effort to help the unit successfully accomplish the mission in accordance with the commander's intent. Also state WHERE, WHEN, HOW, and WHY support units will give aid. Indicate priority of support.

(8) Others as needed. Each subparagraph contains the appropriate control measures selected to reduce risk.

b. **Tasks to maneuver units.** List all maneuver units that report directly to the headquarters issuing the order in the same sequence as in the task organization, including reserves. Use a separate subparagraph for each maneuver unit. Clearly, concisely state the missions or tasks that each maneuver element of the command is to accomplish, including the aviation maneuver element, if applicable. Only state the tasks that are necessary for comprehension, clarity, and emphasis (to include responsibility for control measures selected to reduce risk to the force). Place tactical tasks that affect two or more units in subparagraph 3d (Coordinating instructions).

c. **Tasks to combat support units.** Use these subparagraphs only as necessary. However, when using them, list CS units in subparagraphs in the same order as they appear in the task organization. Use CS subparagraphs to list only those specified tasks (responsibility for control measures selected to reduce the risk of identified hazards) that CS units must accomplish and that are not specified or implied elsewhere. Include organization for combat if not clear from task organization.

(1) Fire support.

(a) Air support. Air support includes allocation of CAS sorties, AI mission sorties or nominations. Show tactical air reconnaissance (TAR) sorties here or in the intelligence annex. Also include nonstrategic nuclear weapons target nominations (corps only).

(b) Chemical support.

(c) Field artillery support.

1. General material.
2. Organization for combat.

(d) Naval gunfire support. Counter fratricide measures require special attention during joint operations.

(e) Fire support coordinating instructions. Force protection measures not addressed elsewhere may be included here.

(2) Air defense. Address the following for organic and attached AD units:

- Organization for combat, if not stated in the task organization.
- Missions.
- Priorities for protection, if not clear in the counter air operations

subparagraph.

-Counter fratricide measures, if not clear in the counter air operations subparagraph.

(3) Chemical (NBC defense). Address functions or support roles of organic or attached chemical units if not clear in the task organization. Establish priority of decontamination. Assign responsibility for hazard control measures as appropriate.

(4) Combat engineer or engineer support. Be sure support relationships for maneuver units agree with the scheme of maneuver. Do not repeat it if it is in the task organization. When appropriate, assign priorities of work and responsibility for hazard control measures.

(5) Intelligence and electronic warfare. Address the function or support roles of organic or attached combat electronic warfare intelligence (CEWI) or MI units, if not clear in task organization.

(a) Intelligence.

(b) Electronic warfare.

(c) Unmanned aerial vehicle. Designate any special (non-SOP) use on UAVs. Designate where you will place remote video terminals, in not designated in the SOP.

(6) Military police.

(7) Others as needed. Address only tactical tasks not in the SOP or responsibility for hazard control measures not addressed elsewhere. Do not list CSS units unless they have been assigned a tactical task.

d. **Coordinating instructions.** This is always the last subparagraph in the paragraph.

3. List only instructions applicable to two or more units. Include the following subparagraphs:

- a. Time or condition when an order becomes effective.
- b. CCIR.
 - (1) PIR.
 - (2) EEFI.
 - (3) FFIR.
- c. Antiterrorist actions.
- d. Air defense weapons status.
- e. MOPP.
- f. OEG.
- g. Troop safety criteria
- h. Vehicle recognition signals (daylight and periods of limited visibility).
- i. Any necessary descriptions of phase lines.
- j. Counter fratricide measures (actions in addition to C2 symbology) not covered elsewhere in the order.
- k. Force protection measures (hazard controls) not addressed elsewhere in the order.
- l. Others as needed.

4. SERVICE SUPPORT.

Clearly, concisely state the concept of logistical support. Address service support in the areas shown below and then only as needed to clarify the service support concept. Do not cover SOP actions if the SOP supports the concept of operation. Address only those hazard control measures affecting service support not covered elsewhere in the order. Subparagraphs include the following:

a. **Support concept.** This paragraph provides an overall visualization of the concept of support to include the acceptance of risk and impact of selected control measures. Its intent is to provide non-CSS commanders and their primary staffs a visualization or word picture of how the operation will be logistically supported. If the information pertains to the entire operation, include it in this subparagraph. If it pertains to more than one unit, address it here and change it in the ensuing subparagraphs when needed. This could include: (1) A brief synopsis of the support command mission. (2) Support command headquarters and/or support area locations, including locations of the next higher logistics bases, if not clearly conveyed in the CSS overlay. (3) The next higher level's support priorities and where the unit fits into those priorities. (4) Priorities, if they remain the same throughout the operation. (5) Units in the next higher CSS organization supporting the unit. (6) Significant and/or unusual CSS issues that might impact the overall operation. (7) Any significant risks, the command level with authority to accept the risks, the selected control measures designed to reduce the level of the risks.

(1) Before phase.

- Priorities.

-- By unit.

-- For personnel replacements.

-- Maintenance and/or recovery and evacuation priorities

(by unit and equipment type).

-- Route use.

- Manning.

- Arming.

- Fueling.

- Fixing.

- Moving. (Priorities should be by unit and commodity.)

Encl 17-7

(2) During phase. If there are any differences or changes, state them in this paragraph. Use the same subparagraphs listed for the "before phase" with the addition of "critical decision points" after "moving".

(3) After phase. If there are any differences or changes from the before and during phase, state them here. Use the same subparagraphs as "before phase" adding the following after "moving".

- Reconstitution.
- Weapons system replacement operations (WSRO).
- Preparing for future operations.

b. **Material and services.** Hazards and controls unique to material and services operations are identified and addressed here.

c. **Medical evacuation and hospitalization.**

d. **Personnel.**

e. **Civil-military cooperation.**

f. **Miscellaneous.**

5. COMMAND AND SIGNAL.

a. **Command.** State the map coordinates for the TAC, MAIN, REAR, and alternate CP locations and at least one future location for each CP.

b. **Signal.** List signal instructions.

ACKNOWLEDGE: (Include a statement directing the recipient to acknowledge receipt and understanding.)

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